ABSTRACT

A method and system for computer aided design (CAD) is disclosed for designing geometric objects. The present invention interpolates and/or blends between such geometric objects sufficiently fast so that real time deformation of such objects occurs while deformation data is being input. Thus, a user designing with the present invention obtains immediate feedback to input modifications without separately entering a command for performing such deformations. The present invention utilizes novel computational techniques for blending between geometric objects, wherein weighted sums of points on the geometric objects are used in deriving a new blended geometric object. The present invention is particularly useful for designing the shape of surfaces. Thus, the present invention is applicable to various design domains such as the design of, e.g., bottles, vehicles, and watercraft. Additionally, the present invention provides for efficient animation via repeatedly modifying surfaces of an animated object such as a representation of a face.